Amendments to the Claims

The listing of claims will replace the previous version, and the listing of claims:

Listing of Claims

1. (Currently amended) A process of producing a stent comprising:

preparing a tubular stent matrix ~~of which diameter is~~ extendable in a diametric direction, ~~and~~

forming flexible solid polymer layers ~~coated~~ on said stent matrix~~, wherein said polymer layers are closely attached to and~~ to cover an entire surface of the stent matrix, and ~~said polymer layers include~~

perforating a plurality of fine through pores ~~formed, after formation of the polymer layers,~~ at portions where the stent matrix does not exist.

2. (Currently amended) A process of producing a stent as claimed in claim 1, wherein said plurality of fine through pores is formed in the polymer layers by laser ~~stent matrix is a mesh metallic member~~.

3. (Currently amended) A process of producing a stent as claimed in claim 2, wherein said mesh metallic member is a mesh metallic member made of cobalt-chromium-nickel-iron alloy.

4. (Currently amended) A process of producing a stent as claimed in claim 2, wherein said mesh metallic member is made of nickel-titanium alloy.

5. (Canceled)

6. (Currently amended) A process of producing a stent as claimed in claim 1, wherein said fine pores are formed to be spaced from each other at substantially equal intervals.

7. (Currently amended) A process of producing a stent as claimed in claim 1, wherein said fine pores are formed to be spaced from each other at intervals of from 51 to 10000 μm and each pore has a diameter of from 5 to 500 μm.

8. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is made of segmented polyurethane.

9. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is made of a polymer of polyolefin series.

10. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is a polymer film of silicone series.

11. (Currently amended) A process of producing a stent as claimed in claim 1, wherein the thickness of each said polymer layer is from 10 to 100 μm.

12. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is coated with a biodegradable polymer.

13. (Currently amended) A process of producing a stent as claimed in claim 12, wherein said biodegradable polymer contains a drug.

14. (Currently amended) A process of producing a stent as claimed in claim 13, wherein said drug is selected from a group consisting of heparin, low-molecular heparin, hirudin, argatroban, formacolin, vapiprost, prostamoline, prostakilin homolog, dextran, D-phe-pro-arg chloromethyl ketone, dipyridamole, platelet receptor antagonist of glycoprotein, recombinant hirudin, thrombin inhibitor, vascular heptyne, angiotensin-converting enzyme inhibitor, steroid, fibrocyte growth factor antagonist, fish oil, omega 3 fatty acid, histamine, antagonist, HMG-CoA reductase inhibitor, seramin, serotonin blocker, thioprotease inhibitor, triazolopyrimidine, interferon, vascular endothelial growth factor (VEGF), rapamycin, FK506, mevalotin, and fuluvastatin.

15. (Currently amended) A process of producing a stent having a tubular stent matrix of which diameter is extendable and flexible polymer films which are attached to both an inner periphery and an outer periphery of said stent matrix and have a plurality of fine pores formed therein, said process comprising:

a step of forming a polymer film for an outer layer by rotating a mold having a cylindrical inner bore about its axis and also supplying a liquid resin material into the mold;

a step of supplying said stent matrix into said mold;

a step of forming a polymer film for an inner layer by rotating the mold about its axis and also supplying a liquid resin material into the mold;

a step of releasing the stent matrix with the films from the mold[[,]]; and

a step of perforating a plurality of the fine through pores at portions where the stent matrix does not exist.

16. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the polymer film for the outer layer is made of a base polymer only.

17. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the step of forming a polymer film for the outer layer comprises forming a first polymer film for the outer layer made of a biodegradable polymer and, after that, forming a second polymer film for the outer layer made of a base polymer on the inner side of the first polymer film.

18. (Previously presented) A process of producing a stent as claimed in claim 15, wherein said polymer film for the inner layer is made only of a base polymer.

19. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the step of forming a polymer film for the inner layer comprises forming a first polymer film for the inner layer made of a base polymer and, after that, forming a second polymer film for the inner layer made of a biodegradable polymer on the inner side of the first polymer film.

20. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the polymer film for the outer layer and the polymer film for the inner layer are made of a base polymer only, and

after removal of the mold, the stent matrix with the outer and inner films is impregnated into a liquid resin material of biodegradable polymer so as to form a coating layer of the biodegradable polymer.

21. (Previously presented) A process of producing a stent as claimed in claim 16, wherein the base polymer is a segmented polyurethane polymer.

22. (Canceled)

23. (Previously presented) A process of producing a stent as claimed in claim 15, wherein perforation is conducted by laser.

24. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the fine pores are formed at substantially equal intervals.

25. (Currently amended) A process of producing a stent ~~having a tubular stent matrix of which diameter is extendable and flexible polymer films which are attached to both an inner periphery and an outer periphery of said stent matrix and have a plurality of fine pores formed therein, said process comprising:~~ according to claim 1, wherein said forming the solid polymer layers comprises

a step of forming the polymer film by impregnating a mandrel into a liquid resin material for forming the polymer film and pulling up the mandrel; and

a step of equalizing the thickness of the polymer film by pulling up the mandrel in a vertical direction and controlling a pulling-up speed~~; and~~

~~a step of perforating a plurality of fine through pores at portions where the stent matrix does not exist~~.

26. (Original) A process of producing a stent as claimed in claim 25, wherein the pulling-up speed is gradually lowered.

27. (Previously presented) A process of producing a stent as claimed in claim 25, wherein the polymer film is made of a base resin material only.

28. (Previously presented) A process of producing a stent as claimed in claim 25, wherein the polymer film comprises a base layer made of a base resin material and a layer of a biodegradable polymer covering the surface of the base layer.

29. (Previously presented) A process of producing a stent as claimed in claim 27, wherein the liquid base resin material is a solution of segmented polyurethane polymer.

30. (Previously presented) A process of producing a stent as claimed in claim 25, wherein said fine pores are formed after the polymer film is formed.

31. (Original) A process of producing a stent as claimed in claim 30, wherein said fine pores are formed by laser machining.

32. (Currently amended) A process of producing a stent ~~having a tubular stent matrix of which diameter is extendable and flexible polymer films which are attached to both an inner periphery and an outer periphery of said stent matrix and have a plurality of fine pores formed therein, said process comprising:~~ according to claim 1, wherein said forming the solid polymer layers comprises

a step of inserting a polymer film for an inner layer into the stent matrix and overlaying a polymer film for an outer layer onto the stent matrix; and

a step of welding the respective polymer films to the stent matrix~~; and~~

~~a step of perforating a plurality of fine through pores at portions where the stent matrix does not exist~~.

33. (Original) A process of producing a stent as claimed in claim 32, wherein the welding is conducted by heating the respective polymer films.

34. (Original) A process of producing a stent as claimed in claim 32, wherein the respective polymer films are welded to the stent matrix by heating the stent matrix with high-frequency dielectric heating.

35. (Original) A process of producing a stent as claimed in claim 32, wherein the respective polymer films are welded to the stent matrix by heating the stent matrix with Joule heat.

36. (Original) A process of producing a stent as claimed in claim 32, wherein the respective polymer films and the stent matrix are welded by supersonic vibration.

37. (Original) A process of producing a stent as claimed in claim 32, wherein the polymer films are welded to the stent matrix by hot isostatic pressing.

38. (Original) A process of producing a stent as claimed in claim 32, wherein the polymer films are welded to the stent matrix by using a heat shrinkable film.

39. (Previously presented) A process of producing a stent as claimed in claim 32, wherein the respective polymer films and the stent matrix are pressurized from both sides during the welding.

40. (Previously presented) A process of producing a stent as claimed in claim 39, wherein pressurization is conducted by inserting a mandrel to the polymer film for the inner layer and applying pressures to the polymer film for the outer layer in a radial direction toward a middle line.

41. (Canceled)

42. (Previously presented) A process of producing a stent as claimed in claim 32, wherein perforation is conducted by laser.

43. (Previously presented) A process of producing a stent as claimed in claim 32, wherein the fine pores are formed at substantially equal intervals.

44. (Previously presented) A process of producing a stent as claimed in claim 32, wherein the polymer films are tubular.

45. (Previously presented) A process of producing a stent as claimed in claim 32, wherein said polymer films are coated with a biodegradable polymer.

46. (Previously presented) A process of producing a stent as claimed in claim 24, wherein said fine pores are spaced from each other at intervals of from 51 to 10000 μm and each pore has a diameter of from 5 to 500 μm.

47. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the thickness of said polymer films is from 10 to 100 μm.

48. (Previously presented) A process of producing a stent as claimed in claim 15, wherein said stent matrix is a mesh metallic member.

49. (Previously presented) A process of producing a stent as claimed in claim 19, wherein said biodegradable polymer contains a drug.

50. (Original) A process of producing a stent as claimed in claim 49, wherein said drug is selected from a group consisting of heparin, low-molecular heparin, hirudin, argatroban, formacolin, vapiprost, prostamoline, prostakilin homolog, dextran, D-phe-pro-arg chloromethyl ketone, dipyridamole, platelet receptor antagonist of glycoprotein, recombinant hirudin, thrombin inhibitor, vascular heptyne, angiotensin-converting enzyme inhibitor, steroid, fibrocyte growth factor antagonist, fish oil, omega 3 fatty acid, histamine, antagonist, HMG-CoA reductase inhibitor, seramin, serotonin blocker, thioprotease inhibitor, triazolopyrimidine, interferon, vascular endothelial growth factor (VEGF), rapamycin, FK506, mevalotin, and fuluvastatin.

51-78. (Canceled)